Cheese, Please

Recreating Unique Properties of Hispanic Cheeses

America's growing Hispanic population craves the various types of cheese available in their native countries. Raw milk, which is used to produce these cheeses, gives them distinctive flavors, textures, and cooking properties. Even though some American companies are producing Hispanic-style cheeses from pasteurized milk (a U.S. requirement for cheeses aged less than 60 days), these do not exhibit the full range of properties of cheeses made from raw milk.

Researchers at ARS' Eastern Regional Research Center (ERRC) in Wyndmoor, Pennsylvania, are studying Hispanic cheeses to help producers meet the increasing demand for them. Total Hispanic-style cheese production in the United States jumped 52 percent from 1996 to 2001, when more than 102 million pounds were sold, according to USDA's National Agricultural Statistics Service. In fact, it is one of the fastest growing U.S. food markets, outpacing the growth of the cheddar and mozzarella markets.

PEGGY GREB (K10121-1)

Using a torsion gelometer, chemist Diane Van Hekken examines the fracture properties of Hispanic-style cheeses to establish their texture profiles.

It's Flavor, Not Fire

Hispanic-style cheese does not mean hot-and-spicy cheese; other ingredients make Hispanic dishes hot. In general, the cheeses are white or off-white and moist. They taste like fresh milk. They become soft and creamy when heated but do not lose shape, run, or separate into greasy solids and liquids. Most cheeses are fresh, though some are aged. Many are mild tasting and crumbly. Others are harder and have stronger flavor.

Chemist Diane L. Van Hekken and colleagues in ERRC's Dairy Processing and Products Research Unit are studying selected Hispanic cheeses made in Mexico to better understand how specific processing techniques result in their desirable qualities. They are looking at the cheeses' chemical and physical makeup to learn how these properties relate to flavor; texture, such as chewiness and stringiness; and function, such as the ability to melt or be sliced. They want to find ways to duplicate these characteristics by following U.S. practices and standards. Then, they hope to apply the findings to improving cheese-processing techniques in general.

According to Van Hekken, there is not a lot of literature available for researchers on the characteristics of these cheese types, and so a main objective is to compile needed references.

In Search of Authenticity

The researchers are looking at four specific cheese types. The first, Queso Blanco, may be the most popular cheese south of the border. It is soft and won't melt. Panela is mild, sweet, and crumbly. Asadero is a smooth, yellow cheese that is somewhat tangy and good for baking. And last, Van Hekken's research team traveled to Mexico twice, where they are working with a collaborator to examine Mennonite-style cheeses from the state of Chihuahua. These semihard cheeses—named after the Mennonite settlers who introduced them to the region—are similar to Queso Quesadilla and Menonita found in the United States.

"All these cheeses have been developed for specific purposes," Van Hekken explains. "People can't cook a Mexican-style dish, for example, with American-style cheese and expect it to taste authentic. Restaurants that want their dishes to be traditional know this, and they search for the right cheeses."

A sensory evaluation board (taste panel) at ERRC has been working since May 2001 to define the flavor profiles of both raw and pasteurized cheeses. MaryAnne Drake, a professor with North Carolina University's Department of Food Science, helped initiate training for panelists to become human instruments and to use a common terminology in describing what they taste.

The researchers also hope to improve the shelf life of Hispanic-style cheeses, which will expand their marketability here and in foreign markets and ensure high food-safety standards.—By **Jim Core,** ARS.

This research is part of New Uses, Quality, and Marketability of Plant and Animal Products, an ARS National Program (#306) described on the World Wide Web at http://www.nps.ars.usda.gov.

Diane L. Van Hekken is in the USDA-ARS Dairy Processing and Products Research Unit, Eastern Regional Research Center, 600 East Mermaid Lane, Wyndmoor, PA 19038-8598; phone (215) 836-3777, fax (215) 233-6795, e-mail dvanhekken@arserrc.gov. ★